

AMENDMENTS

The Examiner is respectfully requested to make the following amendments.

IN THE CLAIMS

Please amend the following claims:

1. (Cancelled) ~~A synthetic peptide having an amino acid sequence corresponding to from about 6 amino acids to all of the amino acids encoded by a genetic suppressor element (GSE) produced according to a method for identifying genetic suppressor elements that confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:~~

- ~~— (a) — synthesizing randomly fragmented cDNA prepared from the total mRNA of a cell to yield DNA fragments;~~
- ~~— (b) — transferring the DNA fragments to an expression vector to yield a genetic suppressor element library, wherein each of the DNA fragments is operatively linked to a protein translation initiation codon, and wherein the expression vector expresses the DNA fragments in a living eukaryotic cell that is capable of exhibiting the selectable phenotype;~~
- ~~— (c) — genetically modifying living cells by introducing the genetic suppressor element library into the living eukaryotic cells;~~
- ~~— (d) — isolating or enriching for genetically modified living eukaryotic cells containing genetic suppressor elements that confer the selectable phenotype by selecting cells that express the selectable phenotype;~~
- ~~— (e) — obtaining genetic suppressor elements from the genetically modified cells; and~~
- ~~— (f) — identifying sense-oriented genetic suppressor elements therein~~

2. (Cancelled) ~~A synthetic peptide having an amino acid sequence corresponding to from about 6 amino acids to all of the amino acids encoded by a genetic suppressor element (GSE) produced according to a method for identifying genetic suppressor elements corresponding to genes that when suppressed by GSEs, confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:~~

- ~~— (a) — obtaining genomic DNA or a total mRNA population from the cells;~~
- ~~— (b) — randomly fragmenting the genomic DNA or synthesizing randomly fragmented cDNA from the total mRNA to produce a population of randomly fragmented DNA fragments;~~

- ~~—— (c) — ligating the randomly fragmented DNA fragments to synthetic adaptors to produce amplifiable random DNA fragments;~~
- ~~—— (d) — amplifying the amplifiable random DNA fragments to provide a mixture of amplified DNA fragments;~~
- 5 ~~—— (e) — cloning the mixture of amplified DNA fragments into a suitable expression vector to produce a random fragment expression library;~~
- ~~—— (f) — transferring the random fragment expression library into appropriate target cells;~~
- ~~—— (g) — isolating or enriching for genetically modified living cells containing a selectable phenotype-conferring genetic suppressor element by selecting or enriching for cells that~~
- 10 ~~express the selectable phenotype; and~~
- ~~—— (h) — recovering the genetic suppressor elements from the genetically-modified target cells having the selectable phenotype; and~~
- ~~—— (i) — identifying sense-oriented genetic suppressor elements therein~~

3. (Cancelled) ~~A synthetic peptide having an amino acid sequence comprising from about 6 amino acids to all of the amino acids encoded by a genetic suppressor element produced according to a method for identifying genetic suppressor elements that confer upon a eukaryotic cell resistance to one or more chemotherapeutic drugs, wherein the method comprises the steps of:~~

- ~~—— (a) — obtaining random DNA fragments of a gene associated with sensitivity to chemotherapeutic drugs;~~
- ~~—— (b) — transferring the random DNA fragments to an expression vector to yield a genetic suppressor element library, wherein each of the random DNA fragments is operatively linked to a protein translation initiation codon, and wherein the expression vector is capable of expressing the DNA fragments in a living eukaryotic cell that is susceptible of inhibitory effects of a chemotherapeutic drug;~~
- ~~—— (c) — genetically modifying living eukaryotic cells by introducing the genetic suppressor element library into the living cells;~~
- ~~—— (d) — isolating or enriching for genetically modified living cells containing chemotherapeutic drug resistance-conferring genetic suppressor elements by selecting cells in the presence of a chemotherapeutic drug, and;~~

- ~~— (e) — obtaining genetic suppressor elements from the genetically modified eukaryotic cells;~~
~~and~~
~~— (f) — identifying sense-oriented genetic suppressor elements therein~~

4. (Currently amended) A synthetic peptide ~~according to claim 1~~ having an amino acid sequence comprising from about 6 amino acids to all of the amino acids encoded by a genetic suppressor element identified by Seq. ID No. 2-5, 9, 11, 12, 16 or 17.

5. (Cancelled) ~~A synthetic peptide according to Claim 1, wherein the selectable phenotype is resistance in a eukaryotic cell to one or more chemotherapeutic drugs.~~

6. (Cancelled) ~~A synthetic peptide according to Claim 2, wherein the selectable phenotype is resistance in a eukaryotic cell to one or more chemotherapeutic drugs.~~

7. (Cancelled) ~~A synthetic peptide according to Claim 3, wherein the selectable phenotype is resistance in a eukaryotic cell to one or more chemotherapeutic drugs.~~

8. (Original) A synthetic peptide having an amino acid sequence corresponding to from about amino acids to all of the amino acids encoding a genetic suppressor element that is produced according to a method for identifying genetic suppressor elements that confer a selectable phenotype upon a eukaryotic cell, wherein the method comprises the steps of:

- (a) synthesizing randomly fragmented cDNA prepared from the total mRNA of a cell to yield DNA fragments;
- (b) transferring the DNA fragments to an expression vector to yield a genetic suppressor element library, wherein each of the DNA fragments is operatively linked to a protein translation initiation codon, and wherein the expression vector expresses the DNA fragments in a living eukaryotic cell that is capable of exhibiting the selectable phenotype;
- (c) genetically modifying living cells by introducing the genetic suppressor element library into the living eukaryotic cells;

- (d) isolating or enriching for genetically modified living eukaryotic cells containing genetic suppressor elements that confer the selectable phenotype by selecting cells that express the selectable phenotype;
- (e) obtaining the genetic suppressor element from the genetically modified cells; and
- (f) identifying sense-oriented genetic suppressor elements therein,

wherein the GSE comprises a portion of a nucleic acid selected from the group consisting of nucleic acids identified by Seq. ID Nos. 2-5, 9, 11, 12, 16 or 17, wherein said peptide disrupts an activity of a protein produced by the cell.